

PATENT APPLICATION
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Docket No: Q77106

Tomoaki Takahashi, et al.

Appln. No.: 10/665,149

Group Art Unit: 2853

Confirmation No.: 5778

Examiner: Julian D. Huffman

Filed: September 22, 2003

For: INK JET RECORDING APPARATUS, METHOD OF CONTROLLING THE
APPARATUS, AND RECORDING MEDIUM HAVING THE METHOD RECORDED
THEREON

RESPONSE TO NOTICE OF NON-COMPLIANT AMENDMENT

MAIL STOP AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Notice of Non-Compliant Amendment dated May 24, 2006, please find enclosed the Amendments to the Claims section to remedy the deficiency noted by the Examiner.

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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): An ink jet recording apparatus comprising:
 - a recording head provided with a pressure generating element;
 - a scanning mechanism for moving the recording head in a main scanning direction;
 - a data developer for developing print data into multi-bit jetting data;
 - a drive signal generator for generating a drive signal including a plurality of drive pulses, on every unit print cycle;
 - a translator for translating the multi-bit jetting data into pulse select information associated with the respective drive pulses;
 - a drive pulse supplier for selectively supplying at least one of the drive pulses to the pressure generating element in accordance with the pulse select information to drive the pressure generating element;
 - a basic recording mode for recording a dot having a size which is selected from one of a plurality of sizes, in a basic unit pixel which is associated with a unit recording area corresponding to the unit print cycle;
 - a high-resolution recording mode for recording a dot in a fine unit pixel, a plurality of fine unit pixels being arranged within the unit recording area in the main scanning direction; and
 - a mode selector for selecting one of plural recording modes including the basic recording mode and the high-resolution recording mode,

wherein the data developer develops the print data into the jetting data so as to indicate the size of the dot to be recorded in the basic unit pixel when the mode selector selects the basic recording mode; and

wherein the data developer develops the print data into the jetting data such that each bit therein indicates whether the recording is conducted or not in each associated fine unit pixel, when the mode selector selects the high-resolution recording mode,

wherein the ~~drive signal is commonly used in the respective recording mode~~same drive signal is used in each of the basic recording mode and the high resolution recording mode.

2. (previously presented): The ink jet recording apparatus as set forth in claim 1, wherein the data developer develops the print data into the jetting data such that bits therein indicate the size of the dot to be recorded in the unit recording area, when the mode selector selects the basic recording mode.

3. (original): The ink jet recording apparatus as set forth in claim 1, wherein the translator is provided with waveform select tables associated with the respective recording modes;

wherein each of the waveform select table defines a correspondence between the jetting data and the pulse select information in the associated recording mode; and

wherein the translator translates the jetting data into the pulse select information with reference to the waveform select table of the recording mode selected by the mode selector.

4. (original): The ink jet recording apparatus as set forth in claim 3, wherein the waveform select table is rewritable.

5. (original): The ink jet recording apparatus as set forth in claim 1, wherein the mode selector selects the recording mode in accordance with the print data.

6. (original): The ink jet recording apparatus as set forth in claim 1, wherein the plural drive pulses are of an identical profile.

7. (original): The ink jet recording apparatus as set forth in claim 1, wherein the plural drive pulses are spaced at constant intervals within the unit print cycle.

8. (original): The ink jet recording apparatus as set forth in claim 1, wherein an initial trigger for starting the unit print cycle is derived from the scanning mechanism.

Claims 9-37. (canceled)

38. (currently amended): An ink jet recording apparatus comprising:
a recording head provided with a pressure generating element;
a scanning mechanism for moving the recording head in a main scanning direction;
a data developer for developing print data into multi-bit jetting data;
a drive signal generator for generating a drive signal including a plurality of drive pulses,
on every unit print cycle;

a translator for translating the multi-bit jetting data into pulse select information associated with the respective drive pulses;

a drive pulse supplier for selectively supplying at least one of the drive pulses to the pressure generating element in accordance with the pulse select information to drive the pressure generating element;

a basic recording mode for recording through use of a basic unit pixel which is associated with a unit recording area corresponding to the unit print cycle;

a high-resolution recording mode for recording through use of a fine unit pixel, a plurality of fine unit pixels being arranged within the unit recording area in the main scanning direction; and

a mode selector for selecting one of plural recording modes including the basic recording mode and the high-resolution recording mode,

wherein the number of gradation levels that can be recorded in the basic recording mode is larger than the number of gradation level that can be recorded in the high-resolution recording mode,

wherein the ~~drive signal is commonly used in the respective recording modes~~ same drive signal is used in each of the basic recording mode and the high resolution recording mode.

39. (canceled).

40. (canceled).

41. (previously presented): The ink jet recording apparatus as set forth in claim 1, wherein either one of the recording on the basic unit pixel and the recording on the fine unit pixel is performed by a single movement of the recording head in the main scanning direction.

42. (previously presented): The ink jet recording apparatus as set forth in claim 38, wherein either one of the recording on the basic unit pixel and the recording on the fine unit pixel is performed by a single movement of the recording head in the main scanning direction.

43. (canceled).

44. (previously presented): The ink jet recording apparatus as set forth in claim 1, wherein a volume of every ink droplet ejected from the recording head is the same irrespective of the mode selected by the mode selector.

45. (previously presented): The ink jet recording apparatus as set forth in claim 38, wherein a volume of every ink droplet ejected from the recording head is the same irrespective of the mode selected by the mode selector.

46-48. (canceled).

REMARKS

As noted previously, the entire Amendment to the Claims section is resubmitted, with appropriate underlining of additions to the claims. Entry and consideration of the claim amendments, as well as the arguments submitted with the prior Amendment filed February 15, 2006, is respectfully requested.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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CUSTOMER NUMBER

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